

Lesson Plan: Health, Sickness, and Medical Care at Bosque Redondo

By Rebekha Crockett

Essential Questions:

What were the most common illnesses at the Fort?
 What were some of the main causes of illness?
 What options were there for medical care?
 How was illness understood by the Native Americans?
 How was illness understood by the Surgeons?

Objectives: Students will be able to...

Explain the nature of health and illness at the fort
 Evaluate historical documents and who wrote them
 To differentiate between fact and opinion and identify bias

Health and Illness in the 1800s...

Western Medicine of the 1800s

Twice as many soldiers died of disease during the war than in combat, which was an improvement from the Mexican War in the 1840s where nearly 70% died of disease. Nevertheless, contagious diseases spread quickly among troops that had mostly grown up in rural communities and never been exposed to diseases like measles, smallpox, and mumps. Yellow fever, malaria, and typhoid fever were also common killers, as well as infections after being wounded.

Civil war medical care is often referred to as “the Middle Ages of medicine in the United States” (Reilly 2016). Doctors were only required to complete two years of education, mostly consisting of lectures, and most doctors mixed and dispensed their own medications. There were no standardized medications or surgical kits before the war. Germ theory was still not accepted as the cause of disease and the concepts of disinfecting to prevent infection were not thought of as effective or necessary. Surgeons usually did not even wash their implements in between patients. At this time, doctors believed most diseases were caused by direct or indirect inflammation.

At the start of the war the army only had 113 doctors, amputations were done in excess, medicine shortages were common, medical staff often worked 48-72 hours straight during and after battles, and the largest hospital only had 40 beds. However, the war led to a revolution in medical care. By the end of the war, there were 12,000 doctors on the Union side and 3,000 on the Confederate side, 400 hospitals with 400,000 beds, a hospital mortality rate of merely 8-9%, and only the most experienced physicians were allowed to amputate. The Civil War led to standardized surgical kits, medicines, medical manuals, better surgical

Materials

Typed copies of Post Hospital medical logs and Indian Hospital medical logs.
 Photographs of original medical logs.
 Typed quotes from the Surgeons.

Vocabulary

Medicine-man
 Post Surgeon
 Indian Hospital Surgeon

Grades
 6-12

techniques, as well as rudimentary plastic surgery and more advanced prosthetics. However, treatments such as mercury and arsenic, as well as the insufficient use of anesthesia during surgeries, were significant problems at this time.

Traditional Native American Medicine

According to Navajo traditions, sickness is caused by contamination, the breaking of a taboo, or otherwise leaving the path of Hozho (Beauty, Harmony and Order). This can include being in contact with outsiders, living beyond the boundaries of the four sacred mountains, being near death or the dead, or near spiritually dangerous animals (for example bears or snakes). It also includes things like attending ceremonies while menstruating, touching the dead, or being a victim of witchcraft. In order for the exact cause of an illness to be determined, if it is not already known to the afflicted person, they will consult a seer: a diviner who will use different techniques to determine the cause and what is needed to be healed.

The afflicted person will then see either an herbalist, who will prepare some herbal remedy, or a medicine man, who performed the appropriate ritual, chant, song, prayer and/or ceremony. Healing ceremonies take anywhere from one to nine days and very complex and expensive. The ability to heal is considered a gift from the Holy People, and therefore those who become medicine men are revered in their communities. To become a medicine man requires years of apprenticeship and the memorization of many complex ceremonies to the point of perfection. Diviners and herbalists would often be women but medicine men were almost always male. The Navajo value ritual and personal cleanliness, including sweat lodges, bathing, and washing ceremonies. Washing was considered extremely important when performing funeral rights and immediately afterwards. The dead were considered extremely taboo, and one should avoid coming into contact with the dead, with their belongings, and with places where people have died.

Captain Bristol reports: "A house is never used after a person has died in it; they (Navajo) vacate the premises at once. Immediately after a death occurs a vessel containing water is placed near the dwelling of the deceased, where it remains over night; in the morning 2 naked Indians come to get the body for burial, with their hair falling over and upon their face and shoulders. When the ceremony is completed they retire to the water, wash, dress, do up their hair and go about their usual avocations" (Testimony of Capt. Henry B. Bristol before the Congressional Committee, June 27 1865).

Health and Illness at Bosque Redondo...

Conditions at the fort were a "perfect storm" that led to illness, injury, and other ailments becoming all too common at Bosque Redondo. The three groups residing there: the Union Soldiers, the Navajo, and the Mescalero Apache all had a wide range of ailments, as revealed by the medical records from the Post and Indian Hospitals of Fort Sumner. However, each group approached healthcare, conditions leading to the wide range of ailments, illness, and healing in different ways.

Housing and weather

One of the major factors that contributed to suffering at Bosque Redondo was exposure and extreme weather. There was not sufficient wood near the fort. People often had to travel 10-20 miles to dig up mesquite roots just to have enough wood to cook with, let alone to build homes or fires to keep warm. The Apache brought their teepees, but were unable to repair or replace damaged parts so homes began to deteriorate. The Navajo lived in timber framed homes called hogans and when they arrived at Bosque



Redondo there wasn't enough timber to recreate their traditional homes. Instead they built brush shelters with thorny mesquite, mud, animal hides, and blankets if they had any. This left them exposed to wind, rain, hail, snow, extreme heat and cold, and insects. The Medical logs document ailments that reveal the consequences of this set of conditions.

Extreme heat could possibly be responsible for some of the burns, diarrhea, constipation, eruptions (rashes), and even ictus (stroke, possibly heat stroke) that were recorded in the medical logs. The cold likewise could contribute to ailments such as frost bite, pneumonia, eruptions, grippe, and catarrh.

Contaminated food and water

The Pecos River was naturally salty and alkaline which caused significant gastrointestinal problems. Contaminated food and water also contributed to the health crisis at Bosque Redondo. With thousands of people using the Pecos River for all their water related needs, including bathing, washing clothes, watering their crops and animals, the water quickly became contaminated. One soldier writing home to his wife said that the water "operates on a person like castor oil" (Pettis to his wife).

Food was even more problematic. The meat that was given out was often rancid, fruits and vegetables (if there were any) had often rotted, corn meal and flour was usually full of weevils or mixed with inedible materials like plaster-of-paris by business men trying to make the meal heavier to get more money. The rations given to the Navajo and Apache were unfamiliar and until they learned to prepare the food, they had many health problems. They were forced them to be creative and adaptive with its use but also causing health problems as they figured out how to properly prepare and cook these unfamiliar items. This was, of course, if they received any food at all. Food shortages, half-rations and even quarter-rations were not uncommon. Many stories tell of the lengths people would go to in order to acquire food, including children digging through manure to find corn kernels. Ailments relating to poor nutrition were therefore also common. Ailments relating to contaminated food and water or malnutrition included:

Dysentery	Typhoid fever	Scrofula
Jaundice	Indigestion	Anemia
Scurvy	Diarrhea	Constipation
Poisoning		

Overcrowding

Bosque Redondo was the largest population center in the Territory of New Mexico at this point in time. For comparison, the population of Santa Fe, the most populous city in the Territory, was well under 5,000 people. Albuquerque had a population of less than 2,500 people. Bosque Redondo had a population of nearly 10,000 at its largest point. Most of the 40 miles square that made up the reservation was set aside for farming, irrigation and grazing livestock. Another portion was set aside for the fort itself. This left little room for the Native Peoples to build their homes. Many lived on or near the flood plains of the Pecos River, putting them at higher risks for various illnesses. Overcrowding made it harder to maintain sanitary conditions, especially when there was little to no infrastructure to begin with, and encouraged the faster spread of contagious diseases that devastated the people living at Bosque Redondo. Some contagious diseases that spread throughout the reservation were:

Conjunctivitis	Grippe	Catarrh
Impetigo	Measles	Meningitis
Mumps	Parotitis	Tuberculosis
Varicella		

Abuse and Labor

During their time at Bosque Redondo, the Native Americans were subject to all sorts of abuses. This included punishments and harassment, forced hard labor, survival sex, and rape. The logs had various reports of soldiers harming the women and of women and young girls exchanging sexual favors for food. This led to the spread of syphilis and other venereal diseases, as well as unwanted pregnancies and even physical injuries. The men were abused while working by harsh overseers but their complaints of mistreatment were largely ignored. The labor was intense and could often lead to injuries. Related disorders included: rapes, wounds, sprains, burns, partial and full dislocations, fractures, inflammation of the back, ankles, wrists or other areas, and even a variety of wounds.

Patterns of health seeking

Of the three groups, Apache, Navajo and Soldiers, the Navajo were the least likely to seek medical care from the post surgeons. One surgeon claimed to see as many as 100 Native American patients in a day, but the recorded number in the log was much closer to 3-5 patients on any given day. The Navajo in spite of being the overwhelming majority of the population were the least likely to seek treatment. Between 1-2% of the Navajo population was being treated each month. Using the Soldiers as a base line because they were already accustomed to using medical services, then around 11% of each population was in need of medical care. This means that only a small portion of Navajo who were sick were choosing to go to the Indian Hospital. These numbers were striking when compared to the Apache, considering 50%-65% of the sick Mescalero Apache population sought treatment at the Indian Hospital. Those who did not go to the hospital were probably sought treatment from their medicine men as they had done for many generations or were just going untreated. There are many reports and oral stories describing the wide spread practice of traditional Navajo medicine on the reservation despite the protests and attempts at repression by post officials. The Navajo probably avoided the hospital for several reasons. First, there was a general distrust of their captors that was augmented by the continued spread of illness even when they went to them for treatment. Secondly, there was a strong preference for their own treatment methods. And thirdly, the Navajo people traditionally avoided places where people have died for spiritual reasons. The surgeons knew of this death aversion and tried to prevent people from dying in the building. They even went so far as to give orders that "all persons who were near dissolutions should be carried into an out-house" (Surgeon George Gwyther, June, 1865).

Overall Health

While the surgeons claimed everyone here was in "excellent health" several times, the reality was that Bosque Redondo was a place where a wide range and quantity of life-threatening ailments were commonplace. Only four deaths are explicitly mentioned in the medical records between September of 1864 and December of 1865 for the Native Americans and six deaths for the soldiers over the same period of time. However, these low death rates are inconsistent with other military reports, historical accounts, oral traditions and lifestyle conditions. This inconsistency is easily explained by the fact that the Surgeon removed patients who were near death from the hospital (since the Navajo avoided places where people had died) and because many perished far from the sight of the soldiers and funerary duties were done by the tribes, privately, and were not reported. According to the data, the 7 most common ailments (from September of 1864 to December of 1865) were: venereal diseases, parotitis/mumps, diarrhea, constipation, ulcers, tonsillitis, and rheumatism.

Venereal disease

Group Sept. 1864- Dec. 1865	Incidents of VD	All Adult Incidents	% of Incidents that wre VD	% of pop. treated for VD per month
Apache	44	258	17.05	1.09
Men	17	111	15.32	1.01
Women	27	147	18.37	1.14
Navajo	519	1248	41.59	0.72
Men	236	546	43.22	0.70
Women	283	702	40.31	0.74
Soldiers	230	834	27.58	3.02

All of the surgeons who worked at the hospitals between 1864 and 1865 stated that venereal disease was the most common complaint and this seems to have overwhelmingly been the case. For all three groups, venereal disease makes up a large portion of the incidents treated at the hospital. However, while the surgeons claim that venereal disease was rare among the Mescalero Apache, especially among Mescalero Apache women and that venereal disease was most common among the Navajo, especially among Navajo women; this does not seem to be the case. The soldiers seem to have been the most afflicted with syphilis and the Apache and Navajo had similar rates.

Why might the surgeons claimed the Navajo had more of this disease? It could be for several reasons, there were nearly 17 times more Navajo than either Apache or soldiers, so the doctors saw what they perceived as more rates of syphilis among Navajo but in reality they were seeing more Navajo than Apache in numbers. However by percentages, the Navajo came in less often than the Apache. Also, the surgeons express disapproval that the Navajo did not practice 1800s Christian-style monogamy and accused the women of having loose morals. Lastly, while less than 1% of the Navajo population was treated each month for venereal disease, VD made up approx. 40% of all of the complaints the Navajo sought treatment for. This can be explained best by Chief Delgadito, who says “a good many of the women have the venereal disease; it has existed among them a good many years in their own country but was not so common there as it is here; there are remedies to cure the disease, but they cannot get them here, they have no confidence in the medicines given them at the hospital; think it would do them no good; most of the old men know how to cure the disease; they use the root of wild weeds that do not grow here; some of the people are dying here of the disease; some were taken to the hospital, but were not cured” (Testimony of Herrero Delgadito before the Congressional Committee, June 27th, 1865)

Activity #1**Critical Thinking and Working with Historical Documents**

In the associate worksheet, there are four quotes from the surgeon at Fort Sumner where he describes something about the health situation at the fort. Either alone, in partners, or in groups, have the students fill out the worksheet provided for each statement. The goal is for the students to determine which part of the quote is fact, which is opinion, what argument the surgeon is making/what he is trying to convince the reader of, and what biases the surgeon has or assumptions he is making. Have them highlight with different colors (or underline and circle) the facts and the opinions for each statement. There is room for different interpretations; debate and discussion should be encouraged for this activity.

To prepare students, it is important to review fact and opinion. The worksheet has a description, but depending upon the age group and prior teaching, it may be important to have the students come up with facts and opinions. Fact: We are studying the Long Walk. Opinion – it is sad what happened. The other part of the activity is finding bias. Bias is the world view that someone holds by which he/she judges the world and creates his/her opinions. Basically the people were steeped in Victorian beliefs and saw the Indians to be inferior and immoral so when the surgeons were confronted with high numbers of venereal diseases they didn't consider that the soldiers could have been exploiting the women to get sex for a ration, instead they assumed that the Navajo women were immoral and tempted the soldiers. Their biases led to increase in suffering.

Activity #2

Reading historical documents: Give it a try!

There isn't any written assignment with this activity. You can display a page of the medical log on smart board or print a copy and share with students to see if they can read any of the words. The problem then was everything was handwritten and doctors tended to have sloppy handwriting even then.

One of the difficulties faced when working with historical documents is that they are handwritten, often with abbreviations and short cuts. This can present challenges that one does not have when working with typed documents. Have the students look at a page of hospital logs and transcribe what they can read. This can be done alone, with partners, or in groups. Then have them discuss the issues they encountered when transcribing the handwritten document, and how they would address these issues if they had more time and resources. (Skills relating to historical documents and problem solving)

Activity #3

What illness is it anyway?

Have students pick an ailment name they do not know and describe what they think the symptoms might be, how it might spread, etc. Then have the students do a little research and find out what the illness really is. Were they close? This activity can be done alone, with partners, or in groups. Caution: some of the search results might include photographs that may be disturbing or graphic so please warn the students beforehand. (Research and creative thinking)

You can write the names on the board or smart board and have students alone or in groups pick one, guess what they think it is and then do a quick internet search to see what it is.



Amaurosis
Bilious fever
Bubo
Catarrh
Delirium Tremens
Dropsy
Erysipelas
Favus
Impetigo
Piles
Parotitis
Pleuritis
Scrofula
Subluxation
Tinea Capitis
Whitlow
Vulnus Sclopetarium

Activity #4

The Spread of Sexually Transmitted Disease (STDs)

This can be a fun way to demonstrate how disease spreads. This isn't for young students who don't have rudimentary understanding of STDs. This is only illustrative and not indicative of what happened at Bosque Redondo because there was a component of coercion but does give an idea of how things can be spread.

Have a table with solo cups for all the students, $\frac{3}{4}$ full of water, with covers over them (a piece of cardboard or construction paper over the lid will do) add food dye to 2-3 cups (depending on class size). Have each student pick a cup. Tell one student not to mix with anyone, tell another two students to only to mix with each other (a monogamous couple). Each student will go up to another student and ask to mix liquids. They will pour the liquid back and forth a couple of times and then re-cover them with the lid. Tell them to do this with 2-3 students (depending on class size) and then have everyone uncover their cups. How many now have the food dye? How many don't? Did anyone try to persuade the monogamous or abstinent people to mix liquids?

Materials: cups with cardboard or construction paper circles for lids and one color of food dye

Fact or Opinion

Name: _____

Date: _____

Instructions: As a group or individually: Then as you read each quote you will be determining what is fact and what is opinion. A **fact** is a statement that is true and can be verified objectively, or proven. In other words, a **fact** is true and correct, no matter what. An **opinion**, however, is a statement that holds an element of belief; it tells how someone feels. An **opinion** is not always true and cannot be proven. Underline all the facts in each quote and then circle all the opinions.

Claim 1: Gwyther, Report to Medical Director, January 1865

"The drinking water in use is obtained either direct from the river, or by acequias leading from it. It is strongly impregnated with mineral salts, but this, so far from being prejudicial to the health of the troops, seems to be a source of the remarkable health enjoyed here."

Claim 2: Hillary, Annual Report of the Commission of Indian Affairs, September of 1866

"You can see from my report the vast preponderance of syphilis over every other disease, and which will always be the case as long as so many soldiers are around here, because the Indian women have not the slightest idea of virtue".

Claim 3: Gwyther, Special Report on Sanitary Conditions at Fort Sumner, August 1865

"Scarce an Indian comes near their Hospital, on some days none at all, yet sickness is plentiful among them, the rattle and song of the medicine men may be heard in many huts, the common signs of sickness and death, are very frequent sights . . . Two causes, I think, these things may be attributed, first, the moving the locality of the Hosp [...] and second, to the large amount of sickness among them springing principally from their fully ignorant and improvident habits, which sickness has helped partly to strengthen the assertions of the native medicine man, that our medicine is not good for them"

Claim 4: George Gwyther Testimony before the Congressional Committee, June 1865

"I think the general health of the Indians has not been good from the opposition to our medical treatment through the influence of their medicine-men, as well as from their exceedingly dirty and imprudent habits of eating and allowing filth of every character to remain near their huts and lodges"

Bias is a belief that a person has that drives how someone sees the world. For example, if someone truly believes that the world is flat and that is their worldview, if someone shows that person a picture of the earth from space, the person may claim that it a "fake." When we believe a way, we then filter the information through that filter. In the example of the flat earth person, he may then provide "reasons" for the fake photo. He may claim that the scientists are hiding the truth to keep us from going to the poles. So in the quotes above see if you can determine the biases and what the speaker is trying to convince the reader of.

	What biases does the surgeon have? In other words what assumptions does the Surgeon make?	What is the argument? What is he trying to convince the reader of?
1		
2		
3		
4		

Standards:

Common Core for Social Studies: 6- 8: 1, 2, 4, 7, 8, 10, Grades 9-10: 3, 4, 5, 7, 10, Grades 11-12: 2, 3, 4.

History: Grades 5- 8: History: 5 – 8 & 9-12: Students are able to identify important people and events in order to analyze significant patterns, relationships, themes, ideas, beliefs, and turning points in New Mexico, United States, and world history in order to understand the complexity of the human experience.

1-D: Research historical events and people from a variety of perspectives.

History: 9-12: Use critical thinking skills to understand and communicate perspectives of individuals, groups and societies from multiple contexts.

Resources

Fort Sumner Historic Site Archives

Reilly, Robert F. "Medical and surgical care during the American Civil War, 1861-1865." *Baylor*

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Wick, John W. 2013 An Analysis of the Shamanistic Healing Practices of the Navajo American

Indians through Mircea Eliade's Theories of Time, Space and Ritual. *Senior Theses, Trinity*

College, Hartford, Connecticut.

Wiget, Andrew . 1999 Traditional Navajo Medicine and Western Medicine Today.

Wyman, Leland Clifton, and Stuart Kimball Harris. 1941 *Navajo Indian Medical Ethnobotany*.

University of New Mexico Press, Albuquerque, New Mexico.